

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of)	
)	
Binariang Satellite Systems SDN BHD)	
)	
Petition for Declaratory Ruling)	File No. SAT-PDR-20030501-00091
To Add MEASAT-2 to the)	
Permitted Space Station List)	
)	
)	

ORDER

Adopted: August 19, 2003

Released: August 19, 2003

By the Chief, Satellite Division, International Bureau:

I. INTRODUCTION

1. In this Order, we add Binariang Satellite Systems SDN BHD's (BSS's) MEASAT-2 satellite, licensed by Malaysia and operating at the 148° E.L. orbit location, to the Commission's Permitted Space Station List ("Permitted List"), with certain conditions. As a result of this action, U.S. earth stations with "routine" technical parameters will be able to access MEASAT-2 immediately in certain C-band frequencies.¹ Placing the MEASAT-2 satellite on the Permitted List should stimulate competition in the United States, provide consumers more alternatives in choosing communications providers and services, reduce prices, and facilitate technological innovation.

II. BACKGROUND

2. In the *DISCO II Order*,² the Commission implemented the satellite services market-opening commitments made by the United States in the World Trade Organization Agreement on Basic Telecommunications Services (WTO Basic Telecom Agreement).³ It also established a framework under

¹ The "conventional C-band" refers to frequencies in the 3700-4200 MHz (space-to-Earth) and 5925-6425 MHz (Earth-to-space) bands.

² *Amendment of the Commission's Regulatory Policies To Allow Non-U.S.-Licensed Space Stations To Provide Domestic and International Satellite Service in the United States*, Report and Order, IB Docket No. 96-111, 12 FCC Rcd 24094 (1997) (*DISCO II* or *DISCO II Order*).

³ The WTO came into being on January 1, 1995, pursuant to the Marrakesh Agreement Establishing the World Trade Organization (the Marrakesh Agreement). 33 I.L.M. 1125 (1994). The Marrakesh Agreement includes multilateral agreements on trade in goods, services, intellectual property, and dispute settlement. The General Agreement on Trade in Services (GATS) is Annex 1B of the Marrakesh Agreement. 33 I.L.M. 1167 (1994). The WTO Telecom Agreement was incorporated into the GATS by the Fourth Protocol to the GATS (April 30, 1996), 36 I.L.M. 354 (1997) (Fourth Protocol to the GATS).

which it would consider access by foreign satellites not covered by the WTO Basic Telecom Agreement. Among other things, the *DISCO II Order* established a procedure by which a service provider in the United States could request immediate access to a foreign in-orbit satellite that would serve the U.S. market.⁴ This procedure requires a U.S. earth station operator seeking to communicate with a non-U.S. satellite to file an earth station application for an initial license or for a modification of its existing earth station license, listing the foreign satellite as a point of communication.⁵

3. In the *DISCO II First Reconsideration Order*, the Commission streamlined the process by allowing the operators of in-orbit non-U.S. satellites offering fixed satellite service to request authority to provide space segment capacity service to licensed earth stations in the United States.⁶ Under this process, the Commission conducts the analysis established in the *DISCO II Order* for a particular non-U.S.-licensed space station and a particular satellite service. If the satellite granted access operates in the conventional C- or Ku-bands, the satellite operator may also request authority to be added to the "Permitted List."⁷ This list identifies all satellites and services with which U.S.-licensed earth stations with routinely authorized technical parameters ("ALSAT" earth stations) are permitted to communicate without additional Commission action, provided that those communications fall within the same technical parameters and conditions established in the earth stations' original licenses.⁸ The Permitted List is maintained on our website, and is also available via fax or e-mail.⁹

4. On April 23, 2003, Binariang Satellite Systems SDN BHD ("BSS"), a Malaysian satellite services provider, filed a Petition for Declaratory Ruling to add its MEASAT-2 communications satellite to the Permitted List.¹⁰ In its petition, BSS requests authorization to provide digital transmission services, including video and Internet services, in the following conventional C-band frequencies: 5.929-6.001 GHz uplink and 3.704-3.776 GHz downlink; 6.009-6.081 GHz uplink and 3.784-3.856 GHz downlink; 6.089-6.161 GHz uplink and 3.864-3.936 GHz downlink; 6.169-6.241 GHz uplink and 3.944-4.016 GHz downlink; 6.249-6.321 GHz uplink and 4.024-4.096 GHz downlink; and 6.329-6.401 GHz uplink and 4.104-4.176 GHz downlink, to, from, and within the United States, using MEASAT-2.¹¹ Additionally, MEASAT-2 will operate on the 6.422 GHz and 5.928 GHz uplink frequencies for its command (on-station) and command (omni) functions, respectively, and at the 4.198125 and 4.199125 GHz downlink

⁴ *DISCO II*, 12 FCC Rcd at 24174 (para. 186).

⁵ When an earth station has been granted authority to communicate with a specific satellite or group of satellites, those satellites are referred to in the earth station license as "points of communication."

⁶ *Amendment of the Commission's Regulatory Policies to Allow Non-U.S.-Licensed Space Stations to Provide Domestic and International Satellite Service in the United States*, First Order on Reconsideration, IB Docket No. 96-111, (1999) (*DISCO II First Reconsideration Order*), 15 FCC Rcd at 7207, 7212 (para. 10).

⁷ *Id.* at 7212-13 (paras. 10-11).

⁸ *Id.* at 7215-16 (para. 19).

⁹ *Id.* This web site address is <http://www.fcc.gov/ib/sd/se/permitted.html>.

¹⁰ Binariang Satellite Systems SDN BHD Petition for Declaratory Ruling for Inclusion of MEASAT-2 on the Permitted Space Station List, filed April 23, 2003 ("BSS Petition"). BSS filed an almost identical petition on July 31, 2001 (File No. SAT-PDR-20010801-00069) that was dismissed without prejudice because it did not conform to certain Commission rules and did not request waivers of those rules. See Letter from Thomas S. Tycz, Chief, Satellite Division, International Bureau, to Dara A. Panahy, counsel for BSS, dated December 20, 2002.

¹¹ BSS Petition at 1 and Exhibit A, p. 2.

frequencies for its telemetry.¹² MEASAT-2 is licensed by Malaysia.¹³ No parties filed oppositions to this petition.

III. DISCUSSION

A. General Framework

5. In the *DISCO II Order*, the Commission set forth the public interest analysis applicable in evaluating applications to use non-U.S. licensed space stations to provide satellite service in the United States. This analysis considers the effect on competition in the United States,¹⁴ eligibility and operating (e.g., technical) requirements,¹⁵ spectrum availability,¹⁶ and national security, law enforcement, foreign policy, and trade concerns.¹⁷ We evaluate BSS's request under this framework.

B. Competition Considerations

6. In *DISCO II*, the Commission established a rebuttable presumption that entry by non-U.S. satellites licensed by WTO Members to provide services covered by the U.S. commitments under the WTO Basic Telecom Agreement will further competition in the United States.¹⁸ These commitments include fixed-satellite service, but specifically exclude direct-to-home (DTH) services, Direct Broadcast Satellite Service (DBS), and Digital Audio Radio Service (DARS).¹⁹ This means that we will presume that WTO-member licensed satellites providing WTO-covered services satisfy the competition component of the public interest analysis. The Commission concluded that the market access commitments made under the WTO Basic Telecom Agreement will help ensure the presence and advancement of competition in the satellite services market and yield the benefits of a competitive marketplace to consumers in the United States and other countries.²⁰

7. In this case, the presumption in favor of entry applies to MEASAT-2, which is licensed by Malaysia, a WTO member,²¹ and which will be used to provide non-DTH fixed-satellite services to customers in the United States. No comments were filed to rebut the proposition that MEASAT-2's entry

¹² *Id.*, Exhibit A, p. 3.

¹³ *Id.*, Exhibit B.

¹⁴ *DISCO II*, 12 FCC Rcd at 24107-56 (paras. 30-145).

¹⁵ *DISCO II*, 12 FCC Rcd at 24159-69 (paras. 151-74).

¹⁶ *DISCO II*, 12 FCC Rcd at 24157-59 (paras. 146-50).

¹⁷ *DISCO II*, 12 FCC Rcd at 24169-72 (paras. 175-82).

¹⁸ *DISCO II*, 12 FCC Rcd at 24112 (para. 39).

¹⁹ *DISCO II*, 12 FCC Rcd at 24104 (para. 25).

²⁰ *DISCO II*, 12 FCC Rcd at 24112 (para. 39); 24157 (para. 143).

²¹ See http://www.wto.org/english/thewto_e/whatis_e/tif_e/org6_e.htm (a list of WTO members). See also http://www.wto.org/english/tratop_e/serv_e/telecom_e/telecom_commit_exempt_list_e.htm (a list of WTO members that made market-access commitments, with links to each member's schedule of commitments and Article II exemptions).

into the U.S. market is pro-competitive. Therefore, we conclude that MEASAT-2's proposed entry for purposes of offering fixed-satellite services, excluding DTH, will enhance competition for these services in the U.S. market. As a condition on MEASAT-2's placement on the Permitted List, however, we prohibit U.S. earth stations from accessing MEASAT-2 for DTH, DBS, or DARS.

C. Spectrum Availability

8. In *DISCO II*, the Commission determined that, given the scarcity of orbit and spectrum resources, it would consider spectrum availability as a factor in determining whether to allow a foreign satellite to serve the United States. This is consistent with the Chairman's Note to the WTO Basic Telecom Agreement, which states that WTO Members may exercise their domestic spectrum/frequency management policies when considering foreign entry. Thus, in *DISCO II*, we stated that when grant of access would create interference with U.S.-licensed systems, we may impose technical constraints on the foreign system's operations in the United States or, when conditions cannot remedy the interference, deny access.

9. Allowing MEASAT-2 to serve the United States from the 148° E.L. orbit location in the C-band will neither affect operations of any U.S.-licensed satellites nor contravene the Commission's spectrum/frequency management policies. According to the BSS Petition, the nearest satellites to MEASAT-2 are Mabuhay at 146° E.L.²² and JCSAT-1B at 150° E.L., both non-U.S. satellites, although Mabuhay is on the Permitted List.²³ The closest U.S.-licensed Satellite is PanAmSat's PAS-8 at 166° E.L. Therefore, allowing MEASAT-2 to serve the United States from the 148° E.L. orbit location in the requested frequency bands will not affect the operations of any currently operating U.S.-licensed satellites. Because MEASAT-2 is not two-degree compliant, however, its operations are authorized conditioned upon it accommodating either existing satellite networks, such as Mabuhay, or future satellite networks, that both serve the United States and are two-degree compliant.²⁴ BSS has indicated that it has coordinated MEASAT-2 with Mabuhay and JCSAT.²⁵

D. Eligibility Requirements

10. The Commission's *DISCO II Order* requires that space station operators not licensed by the Commission meet the same legal, financial, and technical qualifications required of U.S.-licensed space station operators. Nothing in the record raises concerns about BSS's legal qualifications to provide satellite services in the United States. Further, we need not examine BSS's financial qualifications to construct and launch satellites, because MEASAT-2 is already in orbit.

11. We must, however, review MEASAT-2's technical qualifications. The Commission's satellite licensing policy is predicated upon two-degree orbital spacing between geostationary satellites. This policy permits the maximum use of the geostationary satellite orbit. Applicants must demonstrate

²² Mabuhay's ITU designation is PALAPA PAC-C 146E and it is also known as Agila-2.

²³ This satellite was added to the Permitted List in an Order released December 5, 2000. *See In the Matter of Mabuhay Philippines Satellite Corp. Petition for Declaratory Ruling*, 15 FCC Rcd. 23671 (Int'l Bur. 2000).

²⁴ *See* paras. 11-15, *infra*.

²⁵ BSS Petition at 3-6.

that they comply with the Commission's technical requirements, designed to permit two-degree orbital spacing, to be authorized to provide service in the United States. The Commission may license satellites that are not two-degree compliant (or earth stations seeking to access such), but only when the applicants can demonstrate that their operations will not cause harmful interference to existing two-degree compliant satellite operations. Further, non-conforming operations are authorized conditioned upon a licensee accommodating future satellite networks serving the United States that are two-degree compliant.²⁶

12. Based on our review of BSS's technical information, we conclude that MEASAT-2 complies with all applicable Commission rules except Sections 25.210(a)(2) and (3), and Sections 25.210(e),(f), and (g) of our rules.²⁷ First, under Sections 25.210(a)(2) and (3) of our rules,²⁸ MEASAT-2 does not meet the requirement that space stations in this service be designed so that the polarization sense of uplink transmissions is opposite to that of downlink transmission of the same transponder; and that the polarization sense be capable of being switched on ground command. Second, under Sections 25.210(e), (f), and (g) of our rules,²⁹ MEASAT-2 does not meet our frequency reuse requirements, as it does not use both vertical and horizontal polarization. Furthermore, contrary to our domestic service requirement, it uses only vertical polarization on its downlink and uses only one uplink polarization from any one beam; and contrary to our international service requirement, it does not use both polarizations on downlink over widely space beams.³⁰

13. Nevertheless, MEASAT-2's failure to meet our polarity-switching capability or full frequency reuse requirement will not create interference into the operations of satellites that conform to our two-degree spacing requirements. The Commission may waive its rules when there is "good cause" to do so and where waiver would not be inconsistent with the purpose of the rule.³¹ The Commission implemented two-degree spacing to maximize the number of satellites in orbit.³² In doing so, it recognized that new technical standards were needed to ensure that C-band satellites could operate interference-free in a reduced spacing environment.³³ Co-polarized analog television transmissions are highly susceptible to causing interference between adjacent satellites. To prevent such potential interference, the Commission adopted a rule that requires C-band satellites to be capable of switching

²⁶ See, e.g., *Systematics General Corporation*, Order and Authorization, 2 FCC Rcd 7550, 7550-51 (para. 9) (Com. Car. Bur. 1987); *New Skies Satellites, N.V.*, Order and Authorization, 14 FCC Rcd 13003, 13038 (para. 78) (1999).

²⁷ 47 C.F.R. §§ 25.210(a)(2), (3); 47 C.F.R. §§ 25.210(e), (f), (g). In its petition, BSS requested waivers of these sections, explaining that MEASAT-2, a Boeing Satellite System model 376 HP satellite, was launched as a cost-effective regional satellite and that the satellite's noncompliance with certain sections of 47 C.F.R. §25.210 is due to technical design features and limitations of the satellite. BSS further states that in the near future it intends to deploy and co-locate a new satellite with MEASAT-2 at 148° E.L. that will meet all the Section 25.210 requirements. BSS Petition at 4-5; Appendix A at 2-3.

²⁸ 47 C.F.R. §§ 25.210(a)(2), (3).

²⁹ 47 C.F.R. §§ 25.210(e), (f), (g).

³⁰ 47 C.F.R. §§ 25.210(f), (g).

³¹ 47 C.F.R. §1.3.

³² *Licensing of Space Stations in the Domestic Fixed-Satellite Service*, FCC 83-184 (Aug. 16, 1983), at para. 32 (*Two-Degree Spacing Order*).

³³ *Id.* at paras. 33-43.

polarity from the ground.³⁴ BSS does not propose to provide analog television services to the U.S. from MEASAT-2. Consequently, we find no increased interference potential on the MEASAT-2 satellite because of its failure to meet the Commission's polarization-switching requirement. Under these circumstances, we find that a waiver of that polarization rule is warranted here, together with a condition on MEASAT-2's placement of the Permitted List that precludes earth stations from transmitting or receiving analog television signals from the satellite.³⁵ If any earth station operator decides to provide analog television service, a separate modification application will be required, which must include a two-degree spacing compliance analysis, or an affidavit demonstrating that MEASAT-2 has been coordinated for the specific frequencies used for these operations, as specified in Section 25.211(b) of the Commission's rules.³⁶ Each modification application shall include an analysis showing that such analog television operations do not exceed the power flux density (PFD) limits prescribed by Section 25.208(a) of the Commission's rules.³⁷

14. We also find that a waiver is warranted with respect to the Commission's full-frequency reuse requirement. The full-frequency reuse requirement was designed to ensure that satellites maximized the use of their transponder capacity to the benefit of the public.³⁸ The Commission has waived this requirement where doing so would allow satellite capacity that would otherwise lay dormant to be used to provide service.³⁹ Here, MEASAT-2 will operate from the 148° E.L. orbit location regardless of whether we permit it to provide service in the United States. No other country plans to launch a compliant satellite that operates in the same frequency bands into 148° E.L. Thus, preventing MEASAT from offering its capacity in the United States will preclude the provision of C-band service from this orbit location altogether. To allow the public to receive service from an additional competitor, we grant MEASAT-2 a waiver of the full-frequency reuse requirement.

E. Other Issues

15. As described above, under *DISCO II*, national security, law enforcement, foreign policy, and trade concerns are included in the public interest analysis. Nothing in the record before us raises any such concerns.

³⁴ See *In The Matter Of Amendment Of Part 25 Of The Commission's Rules And Regulations To Reduce Alien Carrier Interference Between Fixed-Satellites At Reduced Orbital Spacings And To Revise Application Processing Procedures For Satellite Communication Services*, Second Report And Order, CC 86-496, RM-4206, 8 FCC Rcd. 1316,1318 (paras. 10-11) (1993).

³⁵ See *Mabuhay Philippines Satellite Corp.*, DA 00-2649, 15 FCC Rcd at 23,676-77 (paras. 12-13) (where we granted an identical waiver for and imposed an identical condition on Indonesia's Mabuhay satellite).

³⁶ 47 C.F.R. §25.211(b).

³⁷ 47 C.F.R. §25.208(a).

³⁸ See *Two-Degree Spacing Order* at para. 70. See also *Systematics General Corp.*, 103 FCC 2d 879 (1985), at para. 6.

³⁹ See, e.g., *Systematics General Corp.* 2 FCC Rcd 7550 (Com. Car. Bur. 1987) (authorizing the TDRS-1 and TDRS-3 satellites, which did not meet the full-frequency reuse requirement, to provide service from the 41° W.L. and 62° W.L. orbit locations until those locations were ready to be occupied by compliant satellites).

IV. CONCLUSION

16. We have performed a *DISCO II* analysis in this Order, and have determined, while MEASAT-2 is not two-degree spacing compliant, its operations should not cause unacceptable interference to any other U.S. satellite system or to any non-U.S. satellite system authorized to serve the United States. Consequently, we add MEASAT-2 to the Commission's Permitted List, subject to the conditions set forth in this Order, thus allowing U.S.-licensed earth stations with "ALSAT" designations to access MEASAT-2 without modifying their licenses. We emphasize, however, that MEASAT-2 is not permitted to provide DTH, DBS, or DARS to users in the United States, and its inclusion on the Permitted List is so conditioned. Furthermore, receive-only earth stations -- whether routine or non-routine -- may not receive transmissions from MEASAT-2 unless they are licensed to do so.⁴⁰ Finally, MEASAT-2 is prohibited from carrying analog television signals to, from or within the U.S. unless each earth station using this analog television service files a separate application for modification of its license as outlined above.

V. ORDERING CLAUSES

17. Accordingly, IT IS ORDERED that, pursuant to Sections 303(r), 308, 309, and 310 of the Communications Act of 1934, as amended, 47 U.S.C. §§303(r), 308, 309, 310, and Sections 25.121(a) and 25.137(c) of the Commission's rules, 47 C.F.R. §§25.121(a), 25.137(c), the Binariang Satellite Systems SDN BHD Petition for Declaratory Ruling to Add MEASAT-2 to the Permitted Space Station List, File No. SAT-PDR-20030501-00091, IS GRANTED and each earth station with "ALSAT" designated as a point of communication IS GRANTED authority to provide Fixed Satellite Services (FSS), to, from, or within the United States, by accessing the MEASAT-2 satellite, at the 148° E.L. orbit location in the following frequency bands: 5.929-6.001 GHz uplink and 3.704-3.776 GHz downlink; 6.009-6.081 GHz uplink and 3.784-3.856 GHz downlink; 6.089-6.161 GHz uplink and 3.864-3.936 GHz downlink; 6.169-6.241 GHz uplink and 3.944-4.016 GHz downlink; 6.249-6.321 GHz uplink and 4.024-4.096 GHz downlink; and 6.329-6.401 GHz uplink and 4.104-4.176 GHz downlink, subject to the conditions set forth in each earth station license and the following conditions:

(a) Binariang Satellite Systems SDN BHD is not authorized to use MEASAT-2 to provide any Direct-to-Home (DTH) service, Direct Broadcast Satellite (DBS) service, or Digital Audio Radio Service (DARS) to, from, or within the United States.

(b) U.S.-licensed earth stations are not authorized to use MEASAT-2 to provide any analog television signals to, from or within the United States unless they file a separate modification application that includes a two-degree spacing analysis or an affidavit demonstrating that MEASAT-2 has been coordinated for the specific frequencies used for these operations as specified in Section 25.211(b) of the Commission's rules, 47 C.F.R. 25.211(b), and an analysis showing that the PFD levels prescribed by Section 25.208(a), 47 C.F.R. 25.208(a), are not exceeded.

⁴⁰ See 47 C.F.R. § 25.131(j). See also *Amendment of the Commission's Space Station Licensing Rules and Policies*; IB 96-111, IB 02-34, IB 00-248; FCC 03-128 (rel. Jun. 20, 2003). When the rules adopted by this Order become effective, unlicensed receive-only earth stations will be permitted to access foreign-licensed satellites on the Permitted List, subject to certain conditions. *Id.* Even in this case, however, BSS is still prohibited from using MEASAT-2 to provide DTH, DBS, or DARS to, from or within the U.S.

(c) Binariang Satellite Systems SDN BHD's operation of MEASAT-2 must comply with its applicable current and future operational requirements as a result of coordination agreements with other satellite systems.

(d) In the future, should the Commission authorize access to the U.S. market by a U.S.-licensed or non-U.S.-licensed satellite that is providing services that are two-degree-compliant, and is located two degrees or more from MEASAT-2, Binariang Satellite Systems SDN BHD would be expected to coordinate in good faith with the licensee of that satellite. If a coordination agreement is not reached, the operation of U.S. routine earth stations communicating with MEASAT-2 must be on a non-harmful interference basis relative to routinely licensed U.S. services provided by the compliant satellite.

18. IT IS FURTHER ORDERED that Binariang Satellite Systems SDN BHD IS GRANTED a waiver of Sections 25.210(a)(2) and(3), and Sections 25.210(e), (f), and (g) of the Commission's rules, 47 C.F.R. §§ 25.210(a)(2), (3) and 47 C.F.R. §§ 25.210(e), (f), (g), for the purpose of communicating with MEASAT-2 in the conventional C-band.

19. IT IS FURTHER ORDERED that the MEASAT-2 satellite, together with the conditions set forth in this Order, BE PLACED on the "Permitted Space Station List." Access to the MEASAT-2 satellite network SHALL BE in compliance with any satellite coordination agreements reached between the United States and Malaysia, and any future modifications to such agreements.

20. This Order is issued pursuant to Section 0.261 of the Commission's rules on delegated authority, 47 C.F.R. §0.261, and is effective upon release. Petitions for reconsideration under Section 1.106 or applications for review under Section 1.115 of the Commission's rules, 47 C.F.R. §§1.106, 1.115, may be filed within 30 days of the date of the release of this Order. (See 47 C.F.R. § 1.4(b)(2).)

FEDERAL COMMUNICATIONS COMMISSION

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